RECEIVED
CENTRAL FAX CENTER
MAY 2 3 2006

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	Herschel, Krull
Application No.:	10/691916
Filed:	October 23, 2003
For:	A BRAKING DEVICE FOR AN INDUSTRIAL TRUCK
Examiner:	Robert Siconolfi
Group Art Unit:	3683
Firm Docket No.:	H01.2B-11371-US01

MAIL STOP APPEAL BRIEF PATENTS

DATE: May 23, 2006 TIME: 3:10 FACSIMILE NO.: 1-571-273-8300

TOTAL NUMBER OF PAGES (including transmittal letter): 11

FACSIMILE TRANSMITTAL LETTER

Following please find a 10 page Reply Brief, and 1 page Facsimile Transmittal Letter.

With respect to fees: ☒ No additional fee is believed to be required
☐ Charge ** fee to our Deposit Account No. 22-0350

Conditional Petition

If any extension of time for the accompanying response is required or if a petition for any other matter is required, applicant requests that this be considered a petition therefore.

If any additional fees associated with this communication are required and have not otherwise been paid, please charge the additional fees to Deposit Account No. 22-0350. Please credit overpayment associated with this communication to the Deposit Account No. 22-0350.

Respectfully submitted,
VIDAS, ARRETT & STEINKRAUS

Date: May 23, 2006

By: Jennifer L. Buss
Jennifer L. Buss
Registration No.: 57321

6109 Blue Circle Drive, Suite 2000
Minnetonka, MN 55343-9185
Telephone: (952) 563-3000
Facsimile: (952) 563-3001

f:\wpwork\jlb\11371us01_tra_20060523.doc

Certificate of Transmission

I hereby certify that this correspondence is being facsimile transmitted to the United States Patent and Trademark Office, Fax No. 1-571-273-8300, on May 23, 2006.

Signature: Julie Emerson
Julie Emerson

RECEIVED
CENTRAL FAX CENTER
MAY 2 3 2006

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	**Herschel, Krull**
Application No.:	**10/691916**
Filed:	**October 23, 2003**
For:	**A BRAKING DEVICE FOR AN INDUSTRIAL TRUCK**
Examiner:	**Robert Siconolfi**
Group Art Unit:	**3683**

Mail Stop Appeal Brief-Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Docket No.: H01.2B-11371-US01

REPLY BRIEF

This Reply Brief is filed under 37 CFR §41.41 in reply to the Examiner's Answer mailed March 23, 2006. This Reply Brief addresses arguments made in the Examiner's Answer. Appellant hereby requests that the Appeal be maintained.

The fees required for any required petition for extension of time for filing this brief therefore are dealt with in the accompanying Transmittal Letter.

(ii) Status of claims

Claims 1-10 are pending and have been rejected. No claims have been allowed or objected to. The claims that are being appealed are claims 1-10.

(v) Summary of claimed subject matter

Independent claim 1 and dependent claims 2-10 pertain to a braking device for an industrial truck. The required references to the specification and drawings are provided in brackets in the claim summaries below.

The invention provides a braking device that has a first brake cylinder 22 which is actuated by a brake pedal and a second brake cylinder 26 which is actuated by a magnet 44 (p. 4, ln. 10-12). The magnet 44 responds to a signal from an emergency stop device which responds to an omission of electric current that comes from an electrical device in the truck (p. 5, ln. 12-14). The first brake cylinder 22 and the second brake cylinder 26 are connected to a pressure equalization vessel 30 via a joint line 28 (p. 4, ln. 8-9 and Fig. 1). In addition, the first brake cylinder 22 and the second brake cylinder 26 are connected to the brake line 18 by a shuttle valve 24 (p. 4, ln. 5-8 and Fig. 1). The brake line 18, in turn, is connected to a hydraulically actuated brake on each of the wheels (p. 4, ln.2-5). The second brake cylinder 26 is mounted onto one side of a retaining plate 32 with its piston rod 36 extending through an opening in the retaining plate 32 and connecting to a lever 42 at a pivot point 40 (p. 4, ln. 14-17 and Fig. 2). Retaining plate 32 can be mounted to the truck by means of a flange 34 (p. 4, ln. 13-14 and Fig. 2). The magnet 44 is connected to lever 42 via rod 46 at pivot point 50 (p. 4, ln. 18-20 and Fig. 2). The lever 42 has a third pivot point 52 where rod 56 is connected to the lever 42 (p. 4, ln. 21-22 and

Fig. 2). Rod 56 extends through an opening of the retaining plate 32 with a stop 58 mounted on rod 56 so that the rod 56 is supported on the plate 32 but is capable of moving to the left through the opening of the retaining plate 32 (p.4, ln. 23-26 and Fig. 2). Rods 56 and 46 engage lever 42 by bifurcated elements 54, 48 and can be fixed by means of a bolted joint which can also be used to hinge the rods 56 and 46 (p. 5, ln. 4-5 and Fig. 2). Actuation of the second brake cylinder 26 by the magnet 44 occurs when the magnet 44 becomes de-excited (p. 4, ln. 27-29 and p. 5, ln. 1-3). When the magnet 44 becomes de-excited, rod 46 is retracted by the spring 44 which causes the lever 42 to pivot in a clockwise sense, thereby actuating the piston rod 36, which actuates the second brake cylinder 26 (p. 4, ln.28-29 and p. 5, ln. 1-3 and Fig. 2). The magnet 44 can become de-excited due to a signal generated by an emergency stop device (p. 5, ln. 12-14).

(vi) Grounds of Rejection to be Reviewed on Appeal

Review on appeal is requested of the Examiner's contention that claims 1-10 are obvious over Toomey (U.S. 3,765,729) in view of Kessler (U.S. 6,079,792).

(vii) Argument

1. The Examiner Erred in rejecting claims 1-10 as obvious over Toomey (U.S. 3,765,729) in view of Kessler (U.S. 6,079,792).

Claims 1-10 have been rejected under 35 USC 103(a) over Toomey (U.S. 3,765,729) in view of Kessler (U.S. 6,079,792). The rejection must be reversed.

In the Examiner's Answer, the Examiner re-characterized his original rejection. First, the Examiner stated that the leg 27 of the shuttle valve can function as a

conduit. Secondly, the Examiner asserted that the "connector 28, which is attached to leg 27 by threads, is not part of the shuttle valve (nor the brake 29) and constitutes a conduit in which both hydraulic brake cylinders 6 and 15 are connected." Applicants assert that the Examiner's assertion that the threaded connection 28 is not a part of the shuttle valve is wrong.

The fact that the threaded connection 28 is a part of the Tee valve 22 can be clearly seen when Figures 1-3 of Toomey are studied. Understanding the role that the threaded connection 28 of the Tee valve 22 has in the system is simplified if the focus is on dual master cylinder 6, and the front braking system, as shown in Figure 1 of Toomey below.

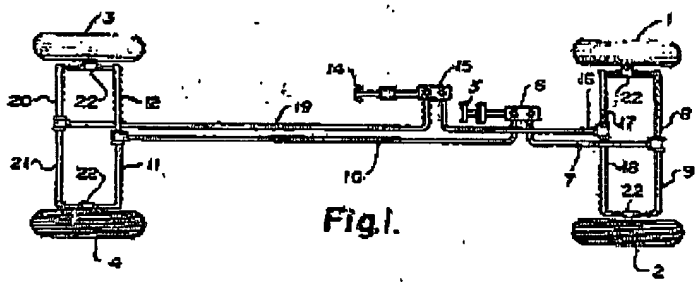
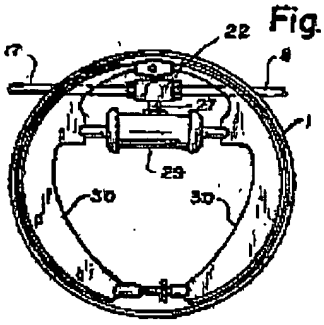


Fig.1.

Dual master cylinder 6 is one of two dual master cylinders and is connected to front conduit 7 which, in turn, is connected to front conduits 8 and 9. Front conduits 8 and 9, in turn, are each connected to a Tee valve 22 which has a threaded connection 28, as shown in Figure 3. The threaded connection 28 of the Tee valve is the means by which the Tee valve 22 is connected to the wheel cylinder 29, as shown in Figures 2 and 3 below.

Fig.2.



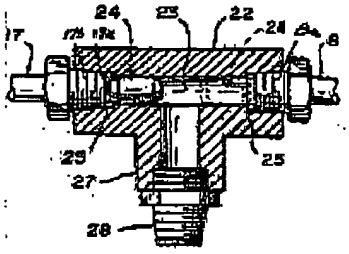


Fig.3.

Figure 3 is an expanded view of the Tee valve 22. Figure 3 shows that the Tee valve 22 has a threaded connection 28. The specification does not state that the threaded connection 28 is "not part of the shuttle valve" as stated by the Examiner in the Examiner's Answer. The only reference to the threaded connection 28 is in column 2, lines 59-61 where it states that the threaded connection 28 is used to connect the Tee valve 22 to the wheel cylinder 29 [column 2, lines 58-61]. Thus, the Figures of Toomey clearly show that the threaded connection 28 is a part of the Tee valve 22 and not a brake line or conduit attached to the Tee valve 22.

Thus, the examiner is incorrect to equate the threaded connection 28 of the Tee valve 22 to a brake line or conduit. This mis-characterization was the only means by which the examiner could state that Toomey suggested or taught two master cylinders sharing a single brake line or conduit since Figure 1 of Toomey shows that conduits 7, 8, 9, 10, 11 and 12, which are connected to the first dual master cylinder 6, are separate from conduits 16, 17, 18, 19, 20 and 21 which are connected to the second dual master cylinder 15. In fact, Toomey refers to the brake system as consisting of "two parallel

systems for operating the four hydraulic brakes of a vehicle" [column 1, lines 28-30].

Therefore Toomey fails to meet the limitations of claim 1. Furthermore, Kessler does not teach or suggest two brake cylinders connected to a single braking conduit. Thus, neither the teachings of Toomey nor the combination of Toomey with Kessler would result in the combined features of independent claim 1. Therefore, a finding of obviousness is inappropriately applied.

In a re-characterization of the original rejection, the Examiner states that leg 27 of the shuttle valve 22 in Toomey is a conduit, even though it is a part of the shuttle valve 22, because it will convey the fluid to the wheel cylinder 29. Examiner references the Merriam-Webster Online Dictionary definition for conduit which is "1: a natural or artificial channel through which something (as a fluid) is conveyed." Applicants disagree that a portion of a Tee valve 22, the leg 27, is a braking conduit. However, even if the Examiner's interpretation of a braking conduit is adopted, the combination of Toomey and Kessler does not meet the limitations of the claim.

Independent claim 1 recites "the second braking cylinder being actuable by an electric magnet, and ***an emergency stop device*** being provided ***which responds to the omission of electric current***, the emergency stop device ***supplying a braking signal to the electric magnet for the actuation of the second hydraulic braking cylinder in case of omission of the current*** (emphasis added).

In Toomey, the emergency brake system "is actuated by the emergency brake 14, which may be either a hand brake or a foot brake" [column 2, lines 14-15]. As the Examiner acknowledged in the Office Action dated December 9, 2004, in the Office Action dated June 16, 2005 and in the Advisory Action dated December 23, 2005, this is

a mechanical system, not an electrical system. Therefore, ***in Toomey, the emergency stop device does not actuate the second hydraulic braking cylinder when there is an omission of electric current***, i.e. no electric current, as recited in instant claim 1, and argued in the Amendments in response to the December 9, 2004 Office Action and the June 16, 2005 Final Office Action.

The Examiner in the Office Action dated December 9, 2004 stated that "[i]t would have been obvious ... to use the solenoid actuation as taught by Kessler ... for better emergency response [because] electrical systems can actuate quicker than a purely mechanical system." Kessler discusses a means for braking a trailer that is attached to a vehicle. In Kessler, ***an "electric braking signal 18*** is sent via a connector 20 at hitch 13 to a solenoid 22 on board trailer 12 which converts the signal to a mechanical stroke of the solenoid's armature" which "is drivingly coupled to the piston rod of a master cylinder 24" [column 4, lines 28-32]. The electric braking signal 18 is transmitted from a control means 14 which in turn received an input signal 16 generated by vehicle 10 [column 4, lines 6-19]. ***Thus, in Kessler,*** the trailer wheel brake cylinder is actuated by a ***solenoid, i.e. electric magnet,*** positioned under the trailer, ***which is actuated by an electric current*** [see column 3 lines 24-28], ***not by an omission of electric current*** as required in instant claim 1 and argued in the Amendments in response to the December 9, 2004 Office Action and the June 16, 2005 Final Office Action.

Thus, substituting the electromagnetic actuation of Kessler for the mechanical actuation of Toomey, ***requires an electric current*** to actuate the emergency stop device. As discussed above, instant claim 1 recites an "emergency stop device supplying a braking signal to the electric magnet for the actuation of the second hydraulic

braking cylinder in case of ***omission of the current***." Therefore, the addition of the solenoid of Kessler to Toomey does not teach or suggest all the limitations of claim 1.

For at least the reasons above, claim 1 and those claims dependent thereon are believed to be in condition for allowance.

3. Conclusion

The Examiner has not shown motivation to combine the references and even when combined the teachings of these patents still fail to teach or suggest the method of any of the claims 1-10. The Board is respectfully requested to reverse the rejections with instruction to pass the application to issue.

Respectfully submitted,

VIDAS, ARRETT & STEINKRAUS

Date: May 23, 2006

By: Jennifer L. Buss
Jennifer L. Buss
Registration No.: 57321

6109 Blue Circle Drive, Suite 2000
Minnetonka, MN 55343-9185
Telephone: (952) 563-3000
Facsimile: (952) 563-3001

f:\wpwork\jlb\11371us01_reply brief_revised_20060523.doc

(viii) Claims Appendix

1. (Previously Presented): A braking device for an industrial truck, comprising a first hydraulic brake cylinder which is coupled with an actuation member and which is in fluid communication with a hydraulic brake of the truck through a braking conduit, a second hydraulic braking cylinder, and an electrical device supplied with electric current, the braking conduit being led to a hydraulic brake of at least one wheel of the industrial truck, the second braking cylinder being also connected to the hydraulic braking conduit, the second braking cylinder being actuable by an electric magnet, and an emergency stop device being provided which responds to the omission of the electric current, the emergency stop device supplying a braking signal to the electric magnet for the actuation of the second hydraulic braking cylinder in case of omission of the current.

2. (Previously Presented): The braking device as claimed in claim 1, characterized in that the first and second brake cylinders (22, 26) are connected to the brake conduit (18) via a shuttle valve (24).

3. (Original): The braking device as claimed in claim 1, characterized in that the electromagnet (44) is acted on by a spring (44) which is tensioned when the electromagnet (44) is energized, and which actuates the second brake cylinder (26) when the electromagnet (44) is de-energized.

4. (Original): The braking device as claimed in claim 1, characterized in that the electromagnet (44) is coupled to the second brake cylinder (26) via a lever linkage.

5. (Original): The braking device as claimed in claim 1, characterized in that the electromagnet (44) acts upon a first rod (46) which is hinged to a lever (42) at a first pivot point (50), the second brake cylinder (26) is hinged to a lever (42) at a second pivot point (40), and the lever (42) is

stationarily supported at a third pivot point (52) wherein the second pivot point (40) is located between the first and third pivot points (50, 52), thereby allowing to apply an actuation force to the second brake cylinder (26).

6. (Original): The braking device as claimed in claim 5, characterized in that the pivot point (52) has hinged thereto a rod (56) which is stationarily supported only in the direction of pull.

7. (Original): The braking device as claimed in claim 4, characterized in that a joint mounting is provided for the second brake cylinder (26) and the electromagnet (44) and the lever linkage.

8. (Original): The braking device as claimed in claim 7, characterized in that the second brake cylinder (26) and the electromagnet (44) are disposed on one side of a retaining plate (32) and the lever (42) with the rods (46, 36, 56) is disposed on the other side of the retaining plate (32).

9. (Original): The braking device as claimed in claim 5, characterized in that at least one rod (46, 36, 56) is adjustably hinged to the lever (42).

10. (Original): The braking device as claimed in claim 8, characterized in that at least one of the rods (46, 36, 56) grips over the lever (42) in the way of a fork and said rods are hinged to the lever (42) by means of a bolted joint.

This Page is Inserted by IFW Indexing and Scanning Operations and is not part of the Official Record

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ BLACK BORDERS
- ☐ IMAGE CUT OFF AT TOP, BOTTOM OR SIDES
- ☐ FADED TEXT OR DRAWING
- ☐ BLURRED OR ILLEGIBLE TEXT OR DRAWING
- ☐ SKEWED/SLANTED IMAGES
- ☐ COLOR OR BLACK AND WHITE PHOTOGRAPHS
- ☐ GRAY SCALE DOCUMENTS
- ☑ LINES OR MARKS ON ORIGINAL DOCUMENT
- ☐ REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY
- ☐ OTHER: _____

IMAGES ARE BEST AVAILABLE COPY.
As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.